AMENDMENT TO THE CLAIMS:

Please cancel claims 1-151 without prejudice or disclaimer, and add new Claims 152-XX as follows:

Claims 1-151 (canceled)

Claim 152 (new): A data aggregation module comprising an aggregation engine and a multidimensional datastore, wherein the multidimensional datastore stores multidimensional data logically organized along N dimensions, and wherein the aggregation engine performs data aggregation operations on said multidimensional data by:

(a) performing a first stage of data aggregation operations along a first dimension of said N dimensions; and

(b) performing a second stage of aggregation operations for a given slice in the first dimension along another dimension of said N dimensions.

Claim 153 (new): The data aggregation module of claim 152, wherein the second stage of aggregation operations involves recursive data aggregation operations for slices in said N dimensions.

Claim 154 (new): The data aggregation module of claim 152, further comprising a data loading mechanism for loading data from a database, and a storage handler for storing in the multidimensional datastore the data loaded from the database and the aggregated data generated by the aggregation engine.

Claim 155 (new): The data aggregation module of claim 152, further comprising an interface for receiving queries generated by a requestor, and control logic that, upon determining that the multi-dimensional datastore does not contain data required to service a given query, controls the aggregation engine to generate aggregated data required to service the given query and controls the aggregation module to return the aggregated data to the requestor.

Claim 156 (new): The data aggregation module of claim 152, wherein said interface interfaces to an OLAP server (comprising OLAP analysis logic and presentation logic) and client machines operably coupled to the OLAP server to provide user-directed OLAP analysis, to thereby realize

an OLAP system capable of performing data aggregation operations on the data, and storing and managing such data.

Claim 157 (new): The data aggregation module of claim 154, wherein said client machines include a web-browser-based user interface that enables user access to the OLAP server.

Claim 158 (new): The data aggregation module of claim 152, integral to a DBMS to thereby realize an improved DBMS capable of performing data aggregation operations on the data, and storing and managing such data.

Claim 159 (new): The data aggregation module of claim 152, integral to a DBMS operably coupled to a plurality of client machines over a network , to thereby realize a data warehouse capable of performing data aggregation operations on the data, and storing and managing such data.

Claim 160 (new): The data aggregation module of claim 152, wherein said interface implements a standard protocol for accessing data.

Claim 161 (new): The data aggregation module of claim 160, wherein the standard protocol comprises one of OLDB, OLE-DB, ODBC, SQL, and JDBC.

Claim 162 (new): The data aggregation module of claim 152, wherein the aggregation engine stores the resultant data of aggregration operations for the given slice as a record in a data file, wherein location of the record in the data file is stored in a directory.

Claim 163 (new): The data aggregation module of claim 162, wherein the directory stores, for a given record, a start address and end address of the record and a physical address of the data file.

Claim 164 (new): A method for data aggregation for use with a multidimensional datastore that stores multidimensional data logically organized along N dimensions, the method comprising the steps of:

(a) performing a first stage of data aggregation operations along a first dimension of said N dimensions; and

(b) performing a second stage of aggregation operations for a given slice in the first dimension along another dimension of said N dimensions; and

(c) storing resultant data in said multidimensional datastore.

Claim 165 (new): The method of claim 164, wherein step (b) involves recursive data aggregation operations for slices in said N dimensions.

Claim 166 (new): The method of claim 164, further comprising the step of loading data from a database, and storing the data loaded from the database in said multidimensional datastore.

Claim 167 (new): The method of claim 164, further comprising the steps of:
    receiving queries generated by a requestor; and
    upon determining that the multi-dimensional datastore does not contain data required to service a given query, controlling the aggregation engine to generate aggregated data required to service the given query and returning the aggregated data to the requestor.

Claim 168 (new): The method of claim 167, wherein the queries are received over an interface that implements a standard protocol for accessing data.

Claim 169 (new): The method of claim 168, wherein the standard protocol comprises one of OLDB, OLE-DB, ODBC, SQL, and JDBC.

Claim 170 (new): The method of claim 164, wherein the resultant data of aggregration operations for the given slice is stored as a record in a data file, wherein location of the record in the data file is stored in a directory.

Claim 171 (new): The method of claim 170, wherein the directory stores, for a given record, a start address and end address of the record and a physical address of the data file.